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Add the following claims:

PS Sub 4
C1

1 25. The inflation assembly of claim 13 wherein the elongated hollow
2 tubular member is arcuate.

1 26. The method of claim 24 wherein the elongated supply of
2 pyrotechnic gas generant material reacts substantially simultaneously.

REMARKS

This application has been reconsidered carefully in light of the Office Action dated as mailed on 10 August 2001. A careful reconsideration of the application by the Examiner in light of the foregoing amendments and the following remarks is respectfully requested.

5 This response is timely filed as it is filed within the three (3) month shortened statutory period for response to the outstanding Office Action.

This response is also accompanied with a check and/or authorization to charge deposit account for any additional claim fee due as a result of this Amendment because the number of independent claims exceeds the number of independent claims

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for which fees have previously been paid, the total number of claims exceeds the total number of claims for which fees have previously been paid, or both.

Amendment to the Claims

By the above,

- 5 1. claims 7, 8, 13, 21 and 24 have been rewritten in independent form by including all of the limitations of the respective underlying claims;
2. claims 2-6 and 11 have been appropriately rewritten to depend from claim 13;
3. claims 22 and 23 have been appropriately rewritten to depend
10 from claim 21;
4. claims 1, 10 and 20 have been deleted without prejudice; and
5. claims 25 and 26 has been added to more fully and completely claim the disclosed subject matter.

15 Newly added claims 25 and 26 find support throughout the original specification, for example, added claim 25 generally parallels originally filed claim 7 but is dependent on claim 13 and added claim 26 generally parallels originally filed claim 22 but is dependent on claim 24.

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Claims 2-9, 11-19 and 21-26 remain in the application.

Allowable Subject Matter

As a preliminary matter, the undersigned wishes to thank Examiner Lum for the allowance of claims 13-19 and the indication that claim 21 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

By the above amendments, claim 21 has been so rewritten. Thus, claim 21 and the claims directly or indirectly dependent thereon (e.g., claims 22 and 23) are believed to be in condition for allowance and notice to that effect is solicited.

Further, claim 13 has also been rewritten to include all of the limitations of the base claim and any intervening claims. Thus, claim 13 and the claims directly or indirectly dependent thereon (e.g., claims 2-6, 11, 12, 14, 15 and 25) are believed to be in condition for allowance. In view thereof, in addition to the allowance of claims 13-19, notice of the allowance of claims 2-6, 11, 12 and 25 is solicited.

Claims Rejection - 35 U.S.C. § 102(b)

Claims 1, 2, 4, 5, 7, 8, 10, 20 and 24 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,845,933 to Walker et al. (hereinafter "Walker").

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The rejections of claims 1, 10 and 20 are obviated by the deletion of these claims.

Claims 2, 4 and 5 have each been above rewritten to depend, directly or indirectly, on claim 13. As claim 13 has been indicated as allowed, so also these claims dependent on claim 13 are believed to be allowable.

Claim 7 requires an inflator which includes an elongated hollow tubular member containing an elongated supply of pyrotechnic gas generant material reactable to produce a supply of gas. The tubular member has a length to diameter ratio greater than 20 and includes a plurality of longitudinally-spaced apart gas exit orifices wherethrough at least a portion of the supply of gas provided by reaction of the pyrotechnic gas generant material can be expelled from the tubular member. The elongated hollow tubular member is required to be arcuate.

While the Action alleges that Walker discloses an “arcuate, elongated diffuser tube 12”, it is respectfully submitted that Walker fails to show or suggest an inflator including an arcuate elongated hollow tubular member as specifically claimed.

Arcuate elongated tubular members are identified and specifically disclosed, described and discussed at various locations in the specification. For example, the invention practice or use of inflator having an arcuate form or profile is

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specifically identified at page, 15, lines 6-9; page 22, lines 4-10 and page 22, line 19 through page 23, line 4 and shown in FIGS. 6 and 7, for example. Such an arcuate elongated hollow tubular member is nowhere shown or suggested by Walker.

Also, enclosed for the benefit of the Examiner is the definition of the
5 term “arcuate” appearing in The American Heritage Dictionary of the English Language, Houghton Mifflin Company, 1981. As stated therein, arcuate means “having the form of a bow; curved; arched.” Again, such an arcuate elongated hollow tubular member is nowhere shown or suggested by Walker.

In view thereof, claim 7 is believed patentable over the art of record and
10 notification to that effect is solicited.

Claim 8 requires that the inflation assembly include “an elongated
diffuser device secured adjacent the inflator for directing at least a portion of gas
expelled from the inflator into an associated inflatable device.” Such an inflation
assembly is not shown or suggested by Walker. In particular, Walker fails to show
15 “an elongated diffuser device secured adjacent the inflator for directing at least a
portion of gas expelled from the inflator into an associated inflatable device”, as
specifically claimed. In view thereof, claim 8 is believed to be allowable over the
prior art of record and notification to that effect is solicited.

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Claim 24 is directed to a method of inflating an inflatable device and requires reacting of an elongated supply of pyrotechnic gas generant material within an elongated hollow tubular member of an inflator having a length to diameter ratio greater than 20 to produce a supply of gas along the length of the tubular member, and expelling at least a portion of the supply of gas through selected locations spaced along the length of the inflator. Claim 24 further requires that prior to reaction of the pyrotechnic gas generant material, the hollow tubular member is bent to conform to an associated inflator-accepting site in an automotive vehicle in which the inflator is placed.

In the rejection of claim 24, the Action includes the assertion that “the patent [presumably Walker] (inherently) discloses that the tube is bent to conform to the physical location of which it is designed.” Such assertion appears to be totally unsupported and the rejection of claim 24 is respectfully traversed.

Walker specifically discloses that the inflator (10) includes an elongated generally cylindrical housing (12) preferably made of lightweight aluminum having a thickness adequate for withstanding inflation gas pressures. See Walker, column 6, lines 18-23, for example. Nowhere does Walker show or suggest the bending of the generally cylindrical housing (12) thereof to conform to an associated inflator-accepting site in an automotive vehicle in which the inflator is placed, as

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required by claim 24. In view thereof, the rejection of claim 24 is not supported by the prior art.

Further, the alleged inherency of bending the hollow tubular member to conform to an associated inflator-accepting site in an automotive vehicle in which the inflator is placed, as required by claim 24, would appear to contradict the fact that inflator devices typically used in inflatable restraint applications have a cylindrical form.

In view of the above, claim 24 is believed to be allowable over the prior art of record and notification to that effect is solicited.

Claims Rejection - 35 U.S.C. § 103

1. Claim 3 was rejected under 35 U.S.C. 103 as being unpatentable over Walker in view of U.S. Patent 6,068,290 to Sheng (hereinafter "Sheng").

2. Claim 6 was rejected under 35 U.S.C. 103 as being unpatentable over Walker in view of U.S. Patent 5,551,724 to Armstrong III et al. (hereinafter "Armstrong").

3. Claims 9, 11, 12 and 23 were rejected under 35 U.S.C. 103 as being unpatentable over Walker in view of U.S. Patent 5,788,270 to Haland et al. (hereinafter "Haland").

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4. Claim 22 was rejected under 35 U.S.C. 103 as being unpatentable over Walker in view of U.S. Patent 4,158,696 to Wilhelm III et al. (hereinafter "Wilhelm").

By the above, claims 3, 6, 11 and 12 have each been rewritten to depend directly or indirectly on allowed claim 13. In view thereof, these claims are believed allowable over the prior art of record and notification to that effect is solicited.

Further, claims 22 and 23 have each been rewritten to depend directly or indirectly on claim 21. As claim 21 has been rewritten in independent form including all of the limitations of the base claim and any intervening claims, claim 21 and the claims dependent thereon (e.g., claims 22 and 23) are believed patentable over the prior art of record and notification to that effect is solicited.

Claim 9 depends on claim 8. As stated above, claim 8 is believed patentable over Walker as, for example, claim 8 requires "an elongated diffuser device secured adjacent the inflator for directing at least a portion of gas expelled from the inflator into an associated inflatable device" and such specifically claimed inflation assembly is not believed shown or suggested by Walker. As such shortcoming of Walker is not overcome by the proposed combination of Haland therewith, so then claim 9 is also believed patentable over the combination of Walker and Haland and notification to that effect is solicited.

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Added Claims

By the above, claim 25 and 26 have been added. Claim 25 is dependent on claim 13 and further requires that the elongated hollow tubular member is arcuate. Claim 26 is dependent on claim 24 and further requires that the elongated supply of
5 pyrotechnic gas generant material react substantially simultaneously.

As claims 13 and 24 are respectfully believed to be allowable over the prior art of record for the reasons advanced above, claim 25 dependent on claim 13 and claim 26 dependent on claim 24 are also believed allowable over the prior art of record and notification to that effect is solicited.

10 Further, as claim 25 requires that the elongated hollow tubular member is arcuate and, as submitted above, an inflator having elongated hollow tubular member which is arcuate is not shown by the cited prior art, claim 25 is believed further patentable over the art of record.

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Conclusion

It is believed that the above Amendment places all pending claims in condition for allowance and notification to that effect is solicited. However, should the Examiner detect any remaining issue or have any question, the Examiner is kindly requested to contact the undersigned, preferably by telephone, in an effort to expedite examination of the application.

Respectfully submitted,



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MARKED-UP VERSION SHOWING CHANGES MADE

Delete Claim 1 without prejudice.

1 2. (Amended) The [inflator] inflation assembly of claim [1] 13
2 wherein at least a portion of the supply of pyrotechnic gas generant material
3 comprises a plurality of cylindrical annular-shaped grains axially aligned end to end
4 along the length of the tubular member.

1 3. (Amended) The [inflator] inflation assembly of claim 2
2 wherein the cylindrical annular-shaped grains comprise an inner surface at least
3 partially coated with an ignition enhancing material.

1 4. (Amended) The [inflator] inflation assembly of claim 2
2 wherein the cylindrical annular-shaped grains form an internal cavity longitudinally
3 extending substantially through the supply of pyrotechnic gas generant material, the
4 inflator additionally comprising an elongated ignition article extending within the
5 internal cavity.

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1 5. (Amended) The [inflator] inflation assembly of claim [1] 13
2 additionally comprising a gas diffusible containment member within the elongated
3 hollow tubular member and surrounding at least a portion of the supply of pyrotechnic
4 gas generant material.

1 6. (Amended) The [inflator] inflation assembly of claim 5
2 wherein the gas diffusible containment member comprises an expanded metal.

1 7. (Amended) An [The] inflator [of claim 1] comprising:
2 an elongated hollow tubular member containing an elongated supply of
3 pyrotechnic gas generant material reactable to produce a supply of gas, the tubular
4 member having a length to diameter ratio greater than 20 and including a plurality of
5 longitudinally-spaced apart gas exit orifices wherethrough at least a portion of the
6 supply of gas provided by reaction of the pyrotechnic gas generant material can be
7 expelled from the tubular member,

8 wherein the elongated hollow tubular member is arcuate.

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1 8. (Amended) An inflation assembly comprising:
2 an inflator comprising an elongated hollow tubular member containing
3 an elongated supply of pyrotechnic gas generant material reactable to produce a
4 supply of gas, the tubular member having a length to diameter ratio greater than 20
5 and including a plurality of longitudinally-spaced apart gas exit orifices wherethrough
6 at least a portion of the supply of gas provided by reaction of the pyrotechnic gas
7 generant material can be expelled from the tubular member [the inflator of claim 1]
8 and
9 an elongated diffuser device secured adjacent the inflator for directing
10 at least a portion of gas expelled from the inflator into an associated inflatable device.

Delete Claim 10 without prejudice.

1 11. (Amended) The inflation assembly of claim [10] 13
2 additionally comprising an associated inflatable device wherein the associated
3 inflatable device comprises an inflatable curtain airbag cushion.

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1 13. (Amended) An inflation assembly comprising:
2 an inflator comprising an elongated hollow tubular member containing
3 an elongated supply of pyrotechnic gas generant material reactable to produce a
4 supply of gas, the tubular member having a length to diameter ratio greater than 20
5 and including a plurality of longitudinally-spaced apart gas exit orifices wherethrough
6 at least a portion of the supply of gas provided by reaction of the pyrotechnic gas
7 generant material can be expelled from the tubular member [the inflator of claim 1]
8 and
9 an elongated discharge treatment element secured with the inflator at
10 selected positions along the respective lengths of the inflator and the discharge
11 treatment element, the discharge treatment element effective to treat at least a portion
12 of the gas expelled from the inflator contacting thereagainst and to deform to create
13 spaced apart gas flow paths between the inflator and the treatment element, the gas
14 flow paths spaced apart along the respective lengths of the inflator and the treatment
15 element, the treatment element also directing at least a portion of gas expelled from
16 the inflator into an associated inflatable device.

Delete Claim 20 without prejudice.

1 21. (Amended) A [The] method [of claim 20] of inflating an
2 inflatable device, the method comprising:

3 reacting an elongated supply of pyrotechnic gas generant material
4 within an elongated hollow tubular member of an inflator having a length to diameter
5 ratio greater than 20 to produce a supply of gas along the length of the tubular
6 member, and

7 expelling at least a portion of the supply of gas through selected
8 locations spaced along the length of the inflator,

9 wherein, subsequent to expulsion from the tubular member, the method
10 additionally comprises:

11 treating at least a portion of supply of expelled gas to form a treated gas,
12 the treating step including,

13 contacting expelled gas onto an elongated treatment element adjacent
14 the inflator and

15 deforming the treatment element to create spaced apart gas flow paths
16 between the inflator and the treatment element, the gas flow paths spaced apart along
17 the respective lengths of the inflator and the treatment element; and

18 directing the treated gas through the spaced apart gas flow paths into the
19 inflatable device.

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1 22. (Amended) The method of claim [20] 21 wherein the elongated
2 supply of pyrotechnic gas generant material reacts substantially simultaneously.

1 23. (Amended) The method of claim [20] 21 wherein the treated
2 gas is directed through the spaced apart gas flow paths into an inflatable curtain airbag
3 cushion inflatable device.

1 24. (Amended) A [The] method [of claim 20] of inflating an
2 inflatable device, the method comprising:

3 reacting an elongated supply of pyrotechnic gas generant material
4 within an elongated hollow tubular member of an inflator having a length to diameter
5 ratio greater than 20 to produce a supply of gas along the length of the tubular
6 member, and

7 expelling at least a portion of the supply of gas through selected
8 locations spaced along the length of the inflator,

9 wherein, prior to reaction of the pyrotechnic gas generant material, the
10 hollow tubular member is bent to conform to an associated inflator-accepting site in
11 an automotive vehicle in which the inflator is placed.